



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,821	12/26/2001	Satoshi Shinada	Q67781	4266

7590 04/08/2004
Sughrue SUGHRUE MION PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

LIANG, LEONARD S

ART UNIT	PAPER NUMBER
----------	--------------

2853

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/025,821	SHINADA ET AL.	
	Examiner	Art Unit	
	Leonard S Liang	2853	18

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 29-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 27 and 28 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

This application contains claims directed to the following patentably distinct species of the claimed invention:

- Species I drawn to an ink cartridge wherein the cartridge electrodes are on a circuit board and the recess is disposed substantially on a centerline of the circuit board and the centerline of the circuit board is coincident with a centerline of the ink jet cartridge (claim 27)
- Species II drawn to wherein the cartridge electrodes are on a circuit board and the recess is disposed substantially on a centerline of the circuit board and the centerline of the circuit board is offset from a centerline of the ink jet cartridge (claim 28)

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-26 and 29-31 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after

Art Unit: 2853

the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Claim Objections

Claim 28 is objected to because of the following informalities: The claim states "The ink cartridge...wherein a the cartridge..." This is incorrect grammar. It will be construed that the claim should state "The ink cartridge...wherein the cartridge...". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29 depends on claim 25 and discloses "the recess is a first recess of a plurality of recesses and the protrusion is a first protrusion of a plurality of protrusions." However, in the

applicant's arguments, the applicant submits, "that new claims 22-31 are fully supported in the specification. For example, the width recited in claim 25 is supported in the first full paragraph of page 8 of the original disclosure. However, this paragraph refers to figure 2, and in figure 2, the examiner cannot identify a plurality of protrusions and a plurality of recesses disposed at a bottom of the ink cartridge; the examiner only sees an individual recess at the bottom of the ink cartridge. The applicant is required to specify what is meant by a plurality of protrusions and recesses.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed

filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

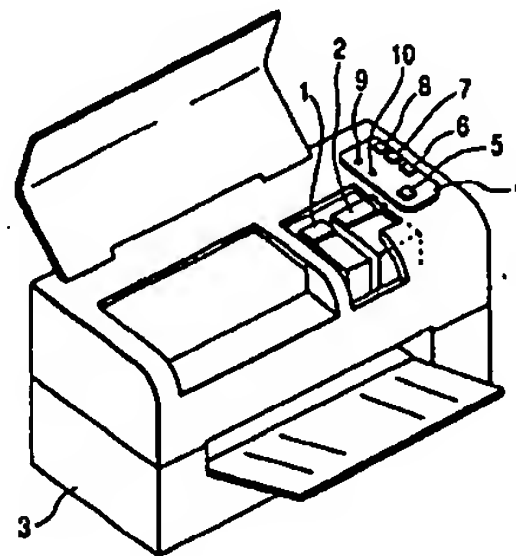
2. Claims 1-6, 8-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Seino et al (US Pat 6361138).

Seino et al discloses:

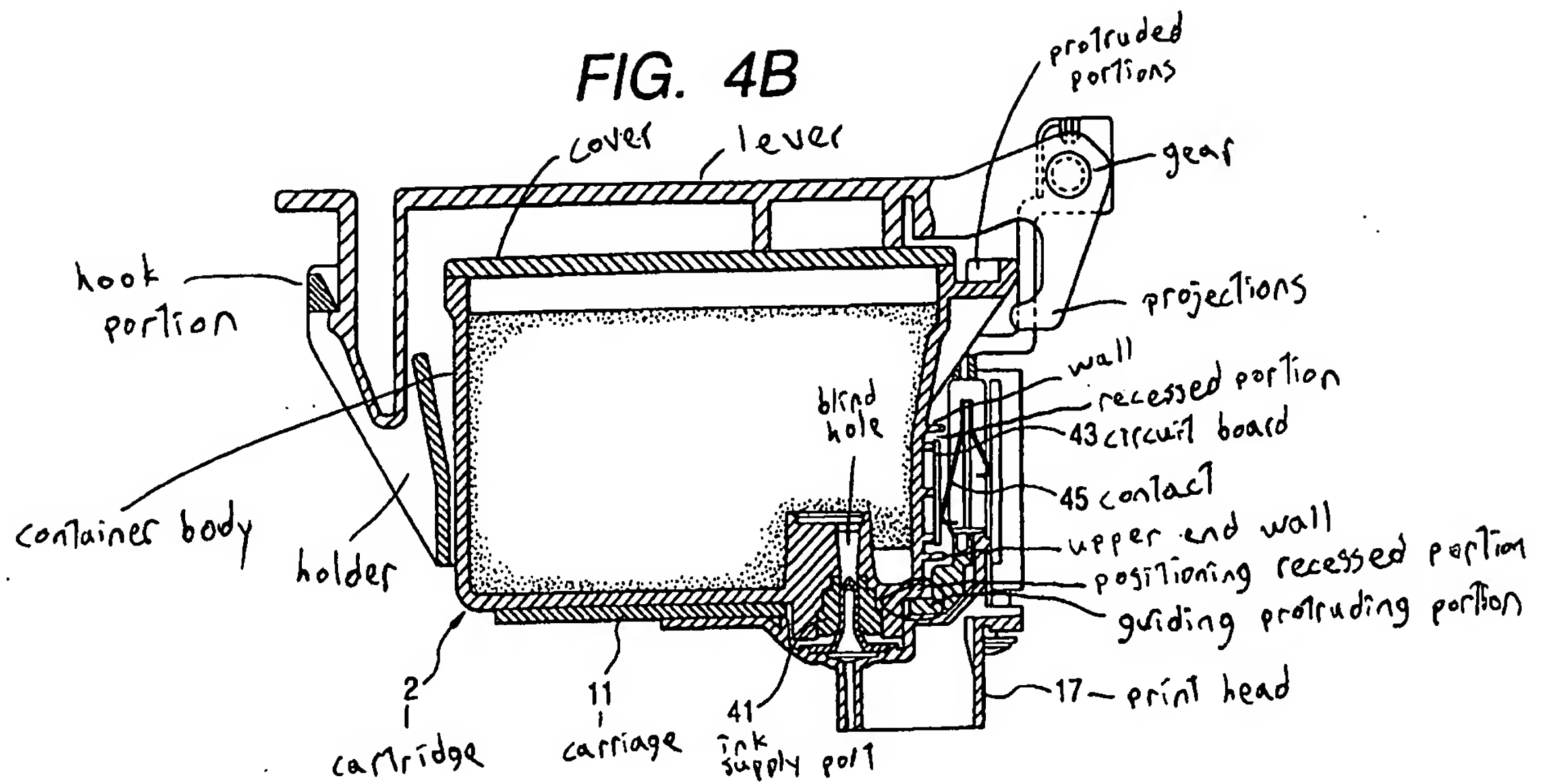
- {claim 1} An ink cartridge for an ink-jet recording apparatus (figure 1, references 1,2; figure 3B);

U.S. Patent Mar. 26, 2002 Sheet 1 of 7 US 6,361,138 B1

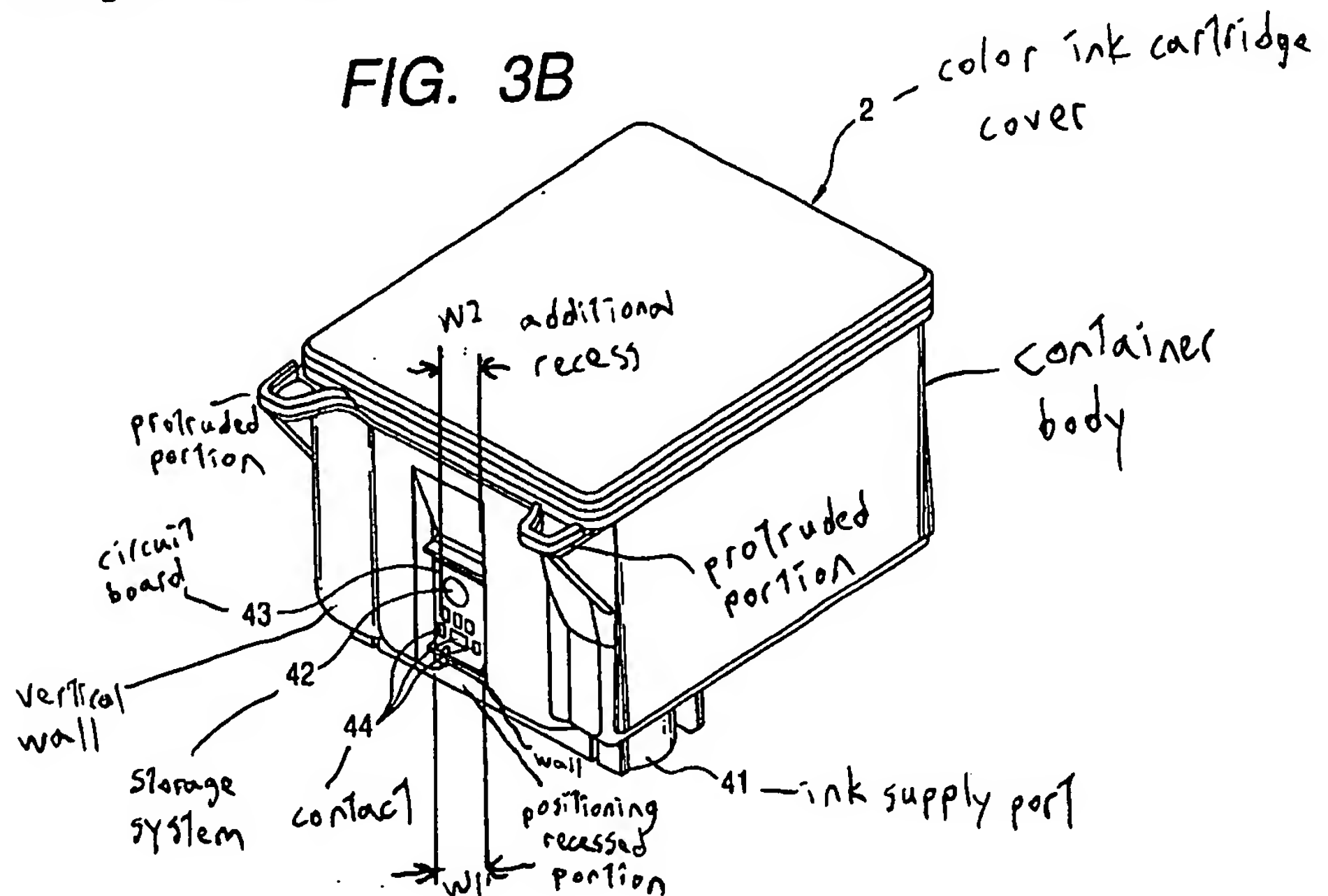
FIG. 1



container body having an ink supply port (figure 3B, reference 41);



a storage element disposed on the container body (figure 3B, reference 42-44);



electrodes to be in contact with respective contacts provided in the recording
 apparatus accommodating the container body therein (figure 3B, reference 43-44);

figure 4B, reference 43 and 45; contacts represent contact electrodes); a positioning system located between the ink supply port and the electrodes and is adapted to contact a positioning member of the recording apparatus to maintain the electrodes in contact with respective contacts (figure 4B, reference 43, 45; positioning recessed portion, guiding protruding portion, and ink supply needle are all drawn in and all serve as part of positioning system; contact point between positioning recessed portion and guiding protruding portion has been circled)

- {claim 2} positioning system includes at least one recess that has an opening at a leading end thereof in an ink cartridge insertion direction, and that is engageable with the positioning member formed as a protrusion (figure 4B; positioning recessed portion, guiding protruding portion drawn in; it is seen that when the lever is lifted in a counter-clockwise direction around the gear, positioning recessed portion moves away from the guiding protruding portion; thus in the alternate direction, the recess is engageable with the positioning member; thus the claim is inherent to the invention)
- {claim 3} at least one recess includes a pair of recesses located opposite from each other with respect to the electrodes (figure 3B; additional recess drawn in; it is seen that positioning recessed portion and additional recess are located opposite from each other with respect to the electrodes)
- {claim 4} recess has an upper end wall to be contacted with an upper end of the protrusion (figure 4B; upper end wall drawn in)

- {claim 5} the wall extends in parallel to a direction in which the electrodes are arranged (figure 3B; wall drawn in between contact electrodes and positioning recessed portion; it is seen that the wall extends in parallel to a direction in which the electrodes are arranged)
- {claim 6} a contact area between the wall and the positioning member is wider than a width of an area in which the electrodes are arranged (figure 3B; the width of the area between the wall and the positioning member is [W1] and the width of the area in which the electrodes are arranged [W2] are drawn in; it is seen that $W1 > W2$)
- {claim 7} the positioning system includes a blind hole opened at a bottom surface of the container body (figure 4B; drawn in)
- {claim 8} the storage element and the electrodes are mounted on a same flexible cable (figure 3B, references 42, 44; column 3, lines 19-21; figure 3B shows the storage system being on the same cable strip as the electrodes and column 3 teaches that the storage element is located on a flexible cable; thus it is inherent to the invention that the electrodes are also located on the flexible cable)
- {claim 9} an ink cartridge for an ink-jet recording apparatus, comprising: a container body having an ink supply port; electrodes; a storage element; and a positioning recessed portion open to the side where the ink supply port is provided, and contactable with a protruding portion formed in the recording apparatus to maintain the electrodes in contact with respective contacts (figures 3B and 4B; see drawn in references)

- {claim 10} circuit board having the electrodes is accommodated in a recessed portion formed in the container body (figure 4B, references 43, 45)
- {claim 11} the positioning recessed portion is formed at a position below a circuit board having the electrodes (figure 4B, references 43, positioning recessed portion)
- {claim 12} a pair of the positioning recesses are provided to be located to be opposite from each other with respect to the electrodes (figure 3B)
- {claim 13} the container body has a recessed portion for accommodating a circuit board having the electrodes, and has a wall which defines the recessed portion and is brought into contact with a top surface of the protruding portion (figure 4B, reference 43, 45, upper end wall, positioning recessed portion, guiding protruding portion)
- {claim 14} the wall extends in parallel to a direction in which the electrodes are arranged (figure 3B)
- {claim 15} a contact area between the wall and the protruding portion is wider than a width of an area where the electrodes are arranged (figure 3B)
- {claim 16} the storage element is mounted on a circuit board (figure 3B, references 42-43)
- {claim 17} a flexible cable is connected to a circuit board having the electrodes, and the storage element is connected to the electrodes through the flexible cable (figure 3B; column 3, lines 19-21)

- {claim 18} the storage element is mounted on the flexible cable (as taught in claims 8 and 17 above)
- {claim 19} the storage element and the electrodes are mounted on a same flexible cable (as taught in claim 8 above)
- {claim 20} the positioning system contacts the positioning member to align the electrodes with respective contacts in at least two directions of a carriage moving direction, a paper feeding direction, and a vertical direction in a state in which the electrodes contact the contacts (figure 4B, reference 43, 45; this is inherent when reference 43 is properly aligned with reference 45 due to the help of the positioning system)
- {claim 21} the positioning recessed portion contacts the positioning member to align the electrodes with respective contacts in at least two directions of a carriage moving direction, a paper feeding direction, and a vertical direction in a state in which the electrodes contact the contacts (figure 4B, reference 43, 45; this is inherent when reference 43 is properly aligned with reference 45 due to the help of the positioning system)
- {claim 22} the positioning system is located at an edge portion where a bottom wall formed with the ink supply port meets a side wall formed with the electrodes (figure 4B; see drawn in references)
- {claim 23} the positioning system extends from a bottom wall formed with the ink supply port to reach at least a lower end of a circuit board having the electrodes (figure 4B; see drawn in references)

Art Unit: 2853

- {claim 24} the positioning system extends from the bottom wall formed with the ink supply port to reach at least a lower end of a circuit board having the electrodes (figure 4B; see drawn in references)
- {claim 25} An ink cartridge for an ink-jet recording apparatus having a protrusion and contact electrodes (figure 3B-4B); a container body having an ink supply port (figure 3B, reference 41); a storage element associated with the container body (figure 3B, reference 42-44); a recess disposed at a bottom of the ink cartridge, having an opening along an insertion direction of the ink cartridge, wherein a width of the opening along a direction perpendicular to the insertion direction is substantially equal to a width of the protrusion along the direction perpendicular to the insertion direction (figure 3B, 4B; see drawn in refs); cartridge electronics disposed at a side of the ink cartridge, contacting respective contact electrodes provided in the recording apparatus accommodating the ink jet cartridge therein (figure 3B, reference 42-44; figure 4B, reference 43, 45)
- {claim 26} the protrusion fitted into the recess fixedly maintains electrical contact between the cartridge electrodes and respective contact electrodes (figure 4B, reference 43, 45)

Response to Arguments

Applicant's arguments filed 09/30/03 have been fully considered but they are not persuasive.

The applicant argues that Seino is silent about a positioning system and that the figures do not inherently show the claimed positioning system as alleged by the examiner. The examiner disagrees. It should be clear from figure 4B that the drawn in positioning recessed portion and guiding protruding portion form a contact which allows the circuit board 43 to remain in a contacted position with contact 45. If the two drawn in portions did not exist, references 43 and 45 would not be positioned correctly. Hence the positioning recessed portion and guiding protruding portion are integral parts of a positioning system, which allows contact between the electrodes of the print cartridge and the print head.

Furthermore, the examiner directs the applicant's attention to the fact that figures 3B and 4B of Seino et al are virtually identical to figures 1 and 3 of the applicant's specified invention. It should be clear to one of ordinary skill in the art that though Seino et al does not textually detail the removing of the ink reservoir from contact with the print head, figure 4B inherently shows that it is equipped to do so. It should be further clear that when the ink reservoir is removed from contact with the print head, the contact between references 43 and 45 will be disrupted, and it is only the drawn-in positioning recessed portion and guiding protruding portions that provide adequate positioning support should the ink cartridge be reunited with the print head's ink supply needle so that the circuit board of the reservoir can once again properly contact the contact 45 of the print head. It is not hindsight reasoning to match parts from two virtually identical figures that are known to one of ordinary skill in the art to do the same thing. However, the examiner reminds the applicant that regardless of whether the drawings of Seino et al match the applicant's drawings, it is the claimed invention that is examined. However, in this case, the examiner maintains that the applicant's claimed invention does not distinguish over Seino et al.

Application/Control Number: 10/025,821
Art Unit: 2853

Page 13


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S Liang whose telephone number is (703) 305-4754. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (703) 308-4896. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lsl

LSL


LAMSON NGUYEN
PRIMARY EXAMINER
02/24/04